



CALIFORNIA OCEAN PROTECTION COUNCIL

John Laird, Secretary for Natural Resources, Council Chair
Gavin Newsom, Lieutenant Governor, State Lands Commission Chair
Linda Adams, Secretary for Environmental Protection
Susan Golding, Public Member
Geraldine Knatz, Public Member
Fran Pavley, State Senator
Toni Atkins, State Assemblymember

April 11, 2011

Phil Isenberg, Chair
Delta Stewardship Council
980 Ninth Street, Suite 1500
Sacramento, CA 95814

Dear Mr. Isenberg:

I am writing as chair of the California Ocean Protection Council (OPC), which unanimously adopted a resolution on sea-level rise on March 11, 2011. This document, which I am attaching, was informed by the advice of 16 state agencies and renowned scientists including members of the OPC Science Advisory Team. The resolution is a tool to provide assistance on incorporating science-based projections of sea-level rise into all state decisions in areas at risk for sea-level rise and storm surge. It also highlights the need for actions that can be taken now to reduce future sea-level rise. Coincidentally, the OPC was meeting as the recent tsunami hit the California coast and it provided a dramatic reminder that the real effects of sea-level rise will be felt during similar events such as storm surges generated by large winter storms during high tides.

Sea-level rise is one of the most significant impacts that California is facing from climate change and will cause significant impacts to public safety, our economy, and natural resources. A study funded in part by the OPC has shown that a 55-inch sea-level rise combined with a 100-year storm event along the California coast places approximately 480,000 people and nearly \$100 billion of property at risk. We can reduce these impacts and support sustainable coastal and bay communities by incorporating sea-level rise and impacts from storms and tsunamis into our decision making, to ensure careful investment of public funding and avoid high risk decisions.

Risk can be reduced to human health, infrastructure, and ecosystems from sea level rise through coordinated and informed action. The resolution builds upon Governor's Executive Order S-13-08 and the 2009 California Adaptation Strategy. It recommends that entities implementing projects funded by the state, or on state lands, including those granted by the Legislature, follow the recommendations in a sea-level rise guidance document (attached) as well as:

1. Assess vulnerabilities to sea-level rise based on the full range of projections including analysis of the highest sea-level rise values presented in the state guidance document;
2. Avoid high risk decisions by selecting sea-level rise projections based on consideration of impacts, adaptive capacity, and risk tolerance; and
3. Coordinate among state agencies and use the same sea-level rise projections when working on the same project or program.

If you are not already a member of the Coastal and Ocean Climate Action Team (CO-CAT) working group, I invite you to join the sixteen state agencies that are working on actions to address sea-level rise and other coastal and ocean climate change impacts, including implementation of the 2009 California Adaptation Strategy. As you may know, the OPC was created in 2004 by the Ocean Protection Act (Division 26.5 of the Public Resources Code) to 1) coordinate activities of state agencies related to coastal and ocean management, 2) establish policies to coordinate the sharing of scientific data related to coastal and ocean resources, and 3) transmit the results of research to state agencies to provide information for policy decisions. Through the sea-level rise resolution, the OPC has committed to continue to serve this function by coordinating the CO-CAT and working with the OPC's Science Advisory Team to regularly

update the sea-level rise guidance document. I would like to thank the following agencies for their participation in the CO-CAT and for developing the sea-level rise guidance document:

- | | |
|--|---|
| 1. Business, Transportation and Housing Agency | 9. Environmental Protection Agency |
| 2. Coastal Commission | 10. Governor's Office of Planning and Research |
| 3. Department of Fish and Game | 11. Natural Resources Agency |
| 4. Department of Parks and Recreation | 12. Ocean Protection Council |
| 5. Department of Public Health | 13. San Francisco Bay Conservation and Development Commission |
| 6. Department of Toxic Substances Control | 14. State Coastal Conservancy |
| 7. Department of Transportation | 15. State Lands Commission |
| 8. Department of Water Resources | 16. State Water Resources Control Board |

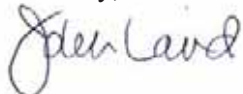
I encourage you to circulate the resolution and guidance document to all staff working on projects or programs potentially impacted by sea-level rise. Please make these two documents available to any entities that seek funding from your agency for projects or programs that may be impacted by sea-level rise. The OPC would like to work with you to identify any policies, plans, laws, regulations or other guiding documents that may need to be amended to incorporate these important principles. OPC staff are also happy to discuss opportunities for hosting a briefing or staff training on sea-level rise and the latest science-based projections. My staff will follow up with you on these opportunities.

The OPC intends to work closely with state agencies to engage in a public stakeholder process this year to clarify and refine the coastal and ocean strategies in the 2009 California Adaptation Strategy. We are also working to identify the highest priority actions that the state and OPC can take to adapt to coastal and ocean climate change and reduce future sea-level rise. Please let us know the point of contact at your agency for discussions regarding this process.

For more information and to discuss implementation of the resolution please contact Amber Mace, OPC Executive Director at amber.mace@resources.ca.gov, (916) 651-8738 or Abe Doherty, OPC Project Specialist at adoherty@scc.ca.gov, (510) 286-4183.

Thank you for your leadership in addressing this significant issue.

Sincerely,



John Laird
Secretary for Natural Resources
Chair, California Ocean Protection Council

Enclosure(s)

CC: Joe Grindstaff



Resolution of the California Ocean Protection Council on Sea-Level Rise Adopted on March 11, 2011

WHEREAS, numerous peer-reviewed scientific studies and exhaustive research have determined that sea-level rise (SLR) due to climate change will have a dramatic impact on coastal development and natural resources and will pose significant planning challenges; and

WHEREAS, research funded in part by the Ocean Protection Council (OPC) has shown that a 55-inch sea-level rise, with a 100-year storm event along the California coast places approximately 480,000 people (given today's population) and nearly \$100 billion (in year 2000 dollars) of property at risk; and

WHEREAS, Governor's Executive Order S-13-08 directed state agencies to consider a range of SLR scenarios for the years 2050 and 2100 to assess project vulnerability, reduce expected risks, and increase resiliency to sea-level rise; and

WHEREAS, senior staff from 16 state agencies of the Coastal and Ocean Working Group of the California Climate Action Team (CO-CAT) reached agreement on a Sea-Level Rise Interim Guidance Document ("Interim Guidance Document"), with science-based input from the OPC's Science Advisory Team and the California Ocean Science Trust.

NOW, THEREFORE, the California Ocean Protection Council hereby

RESOLVES that the pollutants that cause climate change should be reduced early in this century in order to limit the amount of damage from SLR that will occur as a result of rising temperatures; and

FURTHER RESOLVES that state agencies, as well as non-state entities implementing projects or programs funded by the state or on state property, including on lands granted by the Legislature, should incorporate consideration of the risks posed by SLR into all decisions regarding areas or programs potentially affected by SLR; and

FURTHER RESOLVES that state agencies should carefully invest public funds and incentivize SLR risk reduction by following the recommendations within this resolution when providing funding to non-state entities, to the extent permissible by law; and

FURTHER RESOLVES that state agencies, as well as non-state entities implementing projects or programs funded by the state or on state property, including on lands granted by the Legislature, should follow the science-based recommendations developed by the CO-CAT, which are currently described in the Interim Guidance Document (including the projections in Table 1 below) and which will be revised in future guidance documents developed by the CO-CAT¹; and

¹ Refer to the OPC website at www.opc.ca.gov for the latest guidance document.

Resolution of the California Ocean Protection Council on Sea-Level Rise
Adopted on March 11, 2011

FURTHER RESOLVES that the OPC will provide ongoing coordination with the OPC Science Advisory Team and the CO-CAT to support regular updates to guidance on SLR for state agencies based upon current scientific understanding and projections, including consideration of (1) observed ice melt and predictions of future catastrophic ice melting, (2) current atmospheric concentrations of the pollutants that cause climate change, (3) relevant feedback mechanisms and (4) assessment of the status of international efforts to reduce the pollutants that cause climate change and the likelihood of achieving different future emission scenarios; and

FURTHER RESOLVES that, state agencies, as well as non-state entities implementing projects or programs funded by the state or on state property, including on lands granted by the Legislature, should not solely use SLR values within the lower third of the range in the latest CO-CAT guidance document, and instead should generally assess potential impacts and vulnerabilities over a range of SLR projections, including analysis of the highest SLR values presented in the latest CO-CAT guidance document ; and

FURTHER RESOLVES that state agencies, as well as non-state entities implementing projects or programs funded by the state or on state property, including on lands granted by the Legislature, should avoid making decisions based on SLR values that would result in high risk; and

FURTHER RESOLVES that state agencies, as well as non-state entities implementing projects or programs funded by the state or on state property, including on lands granted by the Legislature, should coordinate with one another when selecting values of SLR and use the same baseline projections of SLR for the same project or program, with agency discretion to use higher projections and apply a safety factor as necessary; and

FURTHER RESOLVES that state agencies should make decisions regarding coastal and ocean management based upon the following guiding principles presented in the 2009 California Climate Adaptation Strategy (Adaptation Strategy):

- California must protect public health and safety and critical infrastructure;
- California must protect, restore, and enhance ocean and coastal ecosystems, on which our economy and well being depend;
- California must ensure public access to coastal areas and protect beaches, natural shoreline, and park and recreational resources;
- New development and communities must be planned and designed for long-term sustainability in the face of climate change;
- California must look for ways to facilitate adaptation of existing development and communities to reduce their vulnerability to climate change impacts over time; and
- California must begin now to adapt to the impacts of climate change. We can no longer act as if nothing is changing; and

FURTHER RESOLVES that state agencies should bring renewed efforts to implement the state planning priorities from CA Government Code Section 65041.1 and the recommendations presented in the Adaptation Strategy; and

Resolution of the California Ocean Protection Council on Sea-Level Rise
Adopted on March 11, 2011

FURTHER RESOLVES that the OPC, in close coordination with state agencies, will engage in a public stakeholder process to develop decision guidance to clarify and expand upon the Adaptation Strategy and to identify actions that the state and the OPC can take to address the areas of greatest need regarding coastal and ocean climate change adaptation; and

FURTHER RESOLVES that the OPC will support the development of regional sea-level rise adaptation plans, to the extent that funding and staff capacity allow; and

FURTHER RESOLVES that the OPC will encourage collaborations, including with the federal government, to enhance data collection and monitoring and development of decision support tools and guidance that will directly improve adaptation decision-making, including those predicting extreme events and supporting coastal and ocean climate change impact assessments; and

FURTHER RESOLVES that the OPC will continue to support the development and application of common climate change modeling assumptions so that planning actions in different agencies are based on shared information and current scientific understanding to the greatest extent possible.

Table 1. Sea-Level Rise Projections^{2,3} using 2000 as the Baseline⁴

Year		Average of Models	Range of Models
2030		7 in (18 cm)	5-8 in (13-21 cm)
2050		14 in (36 cm)	10-17 in (26-43 cm)
2070	Low	23 in (59 cm)	17-27 in (43-70 cm)
	Medium	24 in (62 cm)	18-29 in (46-74 cm)
	High	27 in (69 cm)	20-32 in (51-81 cm)
2100	Low	40 in (101 cm)	31-50 in (78-128 cm)
	Medium	47 in (121 cm)	37-60 in (95-152 cm)
	High	55 in (140 cm)	43-69 in (110-176 cm)

² Based upon the SLR estimates presented in Martin Vermeer and Stefan Rahmstorf, "Global sea level linked to global temperature", *Proceedings of the National Academy of Sciences*, published online before print December 7, 2009; doi: 10.1073/pnas.0907765106.

³ For dates after 2050, Table 1 includes three different values for SLR - based on low, medium, and high greenhouse gas emission scenarios. These values are based on the Intergovernmental Panel on Climate Change emission scenarios as follows: B1 for the low projections, A2 for the medium projections and A1Fi for the high projections.

⁴ These values are based on the October 2010 version of the SLR Interim Guidance Document. For future reference, check the OPC website at www.opc.ca.gov to see if there is an updated guidance document that has been developed by the CO-CAT.